

A NEW SPECIES OF GENUS *SULCI CNEPHIA* FROM CHINA (DIPTERA, SIMULIIDAE)

WEN Xiao-Jun MA Yu-Long, CHEN Han-Bin

Department of Biology, Guiyang Medical University, Guiyang 550004, China

Abstract The present paper describes a new species of *Sulci cnephia* (Diptera Simuliidae), *Sulci cnephia brevinedkoi* sp. nov., from Qinghai China. A check list of Chinese species the genus is given.

Key words Simuliidae, *Sulci cnephia*, list new species, China

The genus *Sulci cnephia* of Simuliidae was first defined by Rubtsov (1971), which was placed in tribe Prosimulini and was later moved to tribe Simulini by Adler and Crosskey (2008). So far 21 known species of this genus are known around the world (Crosskey and Howard 1997, Adler and Crosskey 2008), and 5 of them were reported from China (Chen and An, 2003). In this paper, a new species is described on the basis of the reared adult, pupal and larval specimens collected from Qinghai China. The type specimens are deposited in the Department of Biology, Guiyang Medical University.

1 List of Chinese Species of the Genus *Sulci cnephia* Rubtsov, 1971

1) *Sulci cnephia brevinedkoi* sp. nov. (♀, ♂, P. L.)

Distribution: China (Qinghai type locality).

2) *Cnephia flavipes* (Chen, 1984)

Chen, 1984: 387 (♂, P. L.). Chen and An, 2003: 69-70 (♂, P. L.).

Distribution: China (Type locality: Inner Mongolia).

3) *Neumannia jeholensis* (Takahasi, 1942)

Takahasi, 1942: 37 (♀, ♂, P. L.). Chen and An, 2003: 70-72 (♀, ♂, P. L.).

Distribution: China (Type locality: Hebei).

4) *Cnephia jingpengensis* Chen, 1984

Chen, 1984: 38 (P. L.). Chen and An, 2003: 72-73 (P. L.).

China (Type locality: Inner Mongolia).

5) *Cnephia ovotshinnikovi* Rubtsov, 1940

Rubtsov, 1940: 323 (♀, ♂, P. L.). Chen and An, 2003: 73-74 (♀, ♂, P. L.).

Distribution: China (Xinjiang); Kazakhstan (Type locality), Kyrgyzstan, Siberia

6) *Eusimulium undecimata* (Rubtsov, 1951)

Rubtsov, 1951: 757 (♀, P. L.). Chen and An, 2003: 74-75 (♀, ♂, P. L.).

Distribution: China (Xinjiang); Kazakhstan (Type locality), Turkmenistan, Uzbekistan (?).

2 Description of the New Species

Sulci cnephia brevinedkoi sp. nov. (Figs 1-16)

Female Body length about 2.8mm

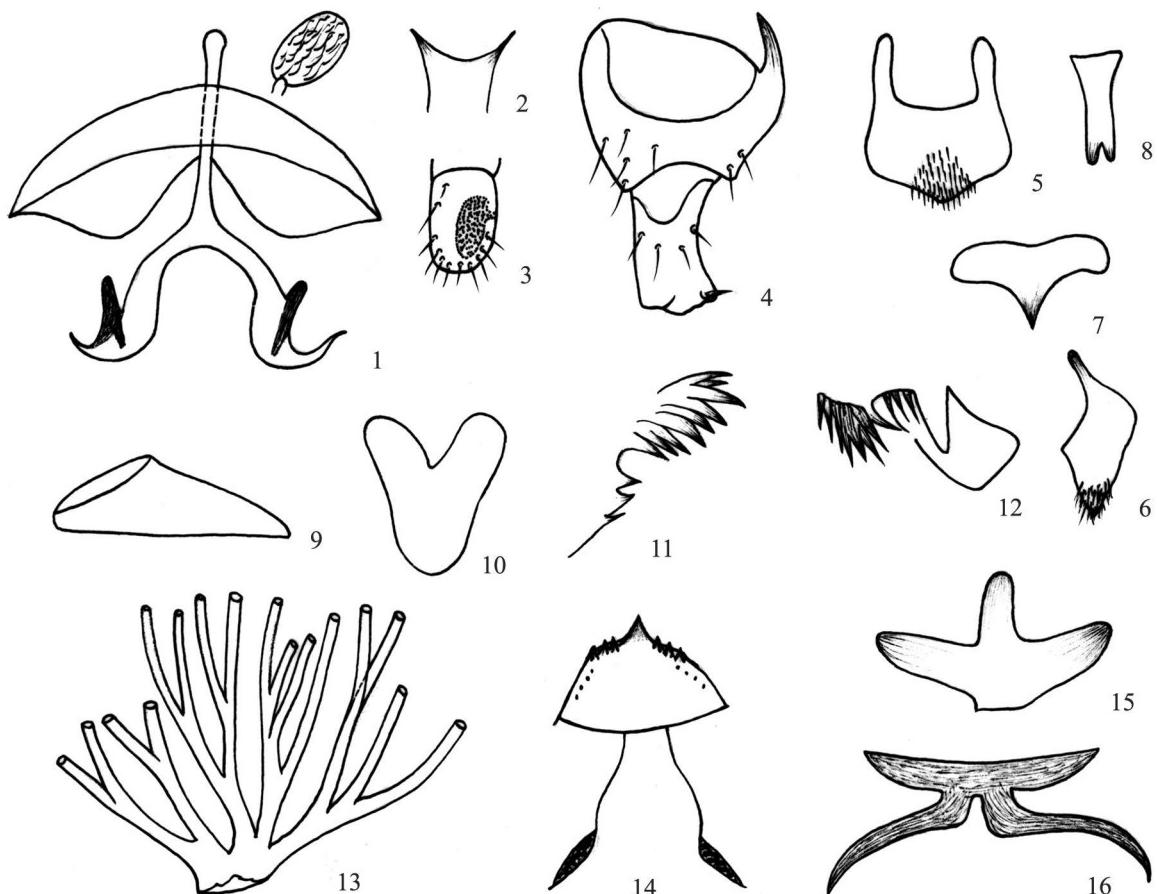
Head Slightly narrower than thorax. Frons and clypeus black, whitish grey pruinosity covered with whitish grey. Frontal ratio 8.0: 5.1: 5.8. Frons:head ratio 8.0: 25.4. Antenna composed of 2+9 segments brownish black except scape yellow. Maxillary palp brown, with 5 segments in proportion of 2.4: 2.1: 5.2: 5.0: 7.5; 3rd segment moderately enlarged, sensory vesicle elliptical about 0.6 length of respective segment. Maxilla with 13 inner teeth and 13 outer ones. Mandible with 12 inner teeth and 34 outer ones. Cibarium unarmed.

Thorax Scutum brownish black, covered densely with yellowish grey as well as sparse erect black hairs on prescutellar area. Scutellum brownish black, whitish grey pruinosity with whitish grey pubescence. Postscutellum brown and bare. Pleural membrane and katepisternum bare. Legs All coxae and trochanters brown. All femora brownish black with yellowish brown on basal 1/4. All tibiae yellow except distal 1/4 brownish black. All tarsi blackish brown except hind basitarsus distal 1/4 and basal 1/2 of 2nd tarsomere yellow. Fore basitarsus slender, about 8 times as long as wide. Hind basitarsus nearly parallel-sided, about 6.2 times as long as wide. Claws calcipala small, pedisulcus not so developed. Claw each with large basal tooth. Wing Costal with spinules as well as hairs. Subcosta bare. Basal portion of radius fully haired. Hair tuft at bases of costa and on stem vein yellow.

Abdomen Basal scale yellow, fringe with yellowish grey hairs. Terga dark brown, densely covered

This study was supported by the National Natural Science Foundation of China (39460073).

Received 26 Jan 2010, accepted 8 June 2010



Figs 1-16 *Sulcianephia brownbecki* sp. nov. 1. Female genitalia 2 Cibarium 3. Female sensory vesicle 4. Coxite and style of male 5. Ventral plate 6. Ventral plate in lateral view. 7. Ventral plate in end view. 8. Median sclerite 9. Cocoon 10. 10th tergite 11. Mandible of larva 12. Paramere 13. Respiratory filaments 14. Larval head in ventral view. 15. Anal gill of larva 16. Larval anal sclerite

with yellowish grey hairs segment 3-6 each with pair of dark areas dorsolaterally Genitalia Stemite 8 well sclerotized with about 20 long hairs on each side Anterior gonapophyses of short-tongue shape in ventrolateral view, membranous covered with a few short setae inner margins narrowly sclerotized, posteromedian corner rounded Genital fork with slender sclerotized stem, which is with dilated end; each arm with distinct rod-like projection directed forwards and rounded projection directed posteromedially. Sematheca ellipsoidal well sclerotized Paraproct and circus moderate size

Male Body length about 3 mm head As wide as thorax Upper eye consisting of large facets in 15 vertical columns and 17 horizontal rows Clypeus densely covered with whitish grey pubescence Antenna composed of 2 + 9 segments 1st flagellar segment about 1.8 times as long as the following one Maxillary palp with 5 segments in proportional lengths of 3rd to 5th segments 4.2: 4.4: 9.5; sensory vesicle small about 0.18 as long as 3rd segment

Thorax Nearly as in female except fore basitarsus more slender about 9 times as long as its

greatest width hind basitarsus somewhat enlarged about 4.4 times as long as wide

Abdomen Basal scale brown fringe with brownish dark hairs Terga dark with dark hairs Genitalia Coxite rectangular in shape about 1.2 times as long as wide Style is very characteristic constricted and twisted about 0.9 times as long as that of coxite with apical spine Ventral plate flat subquadrate distinct produced medially on posterion margin in ventral view, setose medially, basal arms strongly sclerotized, directed or sometimes curved inwardly Parameres each with 3 strongly developed hooks as well as numerous undeveloped ones Median sclerite plate-like and with bifid tip

Pupa Body length about 3 mm. Head and thorax The integument of head and thorax brownish yellow and with tubercles all over Head with 1 facial and 3 frontal pairs of simple trichomes Thorax trichomes 8 pairs all long and simple Gill with 16 filaments arranged in (2 × 2) + (2 × 4) + (2 × 2), all filaments subequal to each other in length and thickness and much shorter than 1/2 pupal body Abdomen Tergum 2 with 6 single setae on each side

1 of them much longer than others terga 3 and 4 each with 4 hooked spines directed forward along posterior margins terga 5-8 bare tergum 9 lacking terminal hooks Stema 6 and 7 each with a pair of bifid hooks on each side Cocoon Shoe-shaped with very short neck and undeveloped anterior margin tightly woven

Larva Body length 5.2-5.8 mm, entirely yellow. Head spots negative Antenna longer than stem of cephalic fan, composed of 4 segments in proportion of 4.3: 1.5: 2.1: 0.3 Cephalic fan each with 38-40 main rays Tip of mandible with two serrations Hypostomal setae 4 or 5 in each side Postgenal cleft very deep ladder-like reaching posterior margin of hypostomium, somewhat narrowed apically and constricted posterior Thoracic and abdominal integuments bare Rectal gill lobes simple Anal sclerite of X-formed with anterior short arms about 0.65 times as long as posterior ones Ventral papillae developed

Holotype ♀, reared from pupa, slide-mounted with exuviae and cocoon, in a rivulet of Gangdha, Qinghai Province, China ($37^{\circ}19'N$, $100^{\circ}7'E$; alt 3140 m), 6 Aug 2006 collected by MA Yu-Long Paratypes 16 ♂♂, 18 ♀♀, reared from pupae 24 pupae and 9 larvae, all slide-mounted, same date as holotype. The pupae and larvae were taken from trailing grasses and leaves.

中国畦克蚋属分类纪要并记述一新种(双翅目, 草科)

温小军 马玉龙 陈汉彬

贵阳医学院生物学教研室 贵阳 550004

摘要 中国畦克蚋属分类纪要报告 5已知种并记述 1新种, 模式标本存放于贵阳医学院生物学教研室。短颈畦克蚋 *Sulciarephia brevirostris* sp. nov., 新种与黄足畦克蚋极为相似, 但可根据足的着色、生殖腹板、生殖叉骨和生殖刺突特征,

关键词 草科, 畦克蚋属, 目录, 新种。

中图分类号 Q969.442.9

Distribution China (Qinghai).

Remarks This new species is closely allied to *S. flavipes* (Chen) from China but can be readily separated from the latter by the coloration of legs, the features of style, ventral plate and median sclerite and the hind basitarsus with small calcipala in the male, the cocoon with very short neck in the pupa and the number of cephalic fan rays in the larva.

Etymology The specific name was given for its shape of pupal cocoon.

REFERENCES

- Adler P. H. and Crosskey R. W. 2008. World Blackflies (Diptera Simuliidae). A Fully Revised Edition of the Taxonomic and Geographical Inventory 105 pp
- Chen H-B and An JY 2003. The Blackflies of China (Diptera Simuliidae). Science Press Beijing 448pp
- Chen JY 1984. Two new species of *Cnephia* from China (Diptera Simuliidae). *Acta Zootax Sin.*, 9 (4): 387-391 [动物分类学报]
- Crosskey R. W. and Howard, T. M. 1997. A new taxonomic and geographical inventory of world blackflies (Diptera Simuliidae). *J Nat Hist.*, 145pp
- Rubtsov, I A 1940 Blackflies (fan. Simuliidae), Fauna of the USSR (New Series NO. 23). *Diptera*, 6 (6): ix 532pp
- Rubtsov, I A 1951 On the systematics of the black-flies (Simuliidae Diptera) of central Asia. *Tруды Зоологического Института Академии Наук СССР, Ленинград*, 9 743-860.
- Rubtsov, I A. 1971 Annales Historico-naturales Musei Nationis Hungarici (Zoologica). 63: 263.
- Takahasi 1942 Die Simuliidea von Mandchukuo. II. 16 (1/2): 36-43.

雄性后足基跗节跗突小, 蜻蜓鞋状, 颈极短, 幼虫头扇梳状毛数量与上述近缘种相区别。

正模 ♀, 副模 16 ♂♂, 18 ♀♀, 24蛹, 9幼虫, 2006年8月6日采自青海省刚察县小溪中的水草和落叶。